

Serial No. 10/632,988

Docket No. YHK-0115

Amendment dated January 18, 2006

Reply to Office Action of November 18, 2005

Amendments to the Claims:

This listing of claims will replace all prior versions, and listings, of claims in the application:

Listing of Claims:

1. (Currently Amended) A method of driving a plasma display panel ~~having one frame using frames, each frame~~ divided into a plurality of sub-fields ~~for its driving~~, comprising the steps of:

applying a first driving waveform to said sub-fields at a temperature ~~more than a low temperature~~ at a first prescribed temperature; and

applying a second driving waveform different from the first driving waveform to said sub-fields at ~~the low~~ a second prescribed temperature, the first and second prescribed temperature being different,

wherein each of said sub-fields includes a plurality of periods, one of the periods being an initialization period, which includes a set-up interval for forming wall charges at a discharge cell and a set-down interval for erasing a portion of the wall charges formed during the set-up interval, and

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wherein waveforms applied in the set-up interval of the first and second driving waveforms are different from each other while waveforms applied in the other periods are substantially identical to each other.

2. (Canceled)

3. (Canceled)

4. (Currently Amended) The method as claimed in claim 21, further comprising the steps of wherein the step of applying the first waveform comprises:

applying a rising ramp waveform to a scan electrode provided at each discharge cell during the set-up interval ~~when said first driving waveform is supplied;~~

applying a ground voltage to a common sustain electrode provided, in parallel with the scan electrode, at each discharge cell in ~~the~~ a first half of the set-up interval; and

floating the sustain electrode in ~~the~~ a second half of the set-up interval.

5. (Currently Amended) The method as claimed in claim 21, further comprising the steps of applying a second driving waveform comprises:

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applying a rising ramp waveform to a scan electrode provided at each discharge cell during the set-up interval ~~when said second driving waveform is supplied~~; and

applying a ground voltage to a common sustain electrode provided, in parallel with the scan electrode, at each discharge cell during the set-up interval.

6. (Currently Amended) The method as claimed in claim 21, wherein said ~~low~~ second prescribed temperature is within a range of temperature is 20°C to -50°C.

7. (Currently Amended) A method of driving a plasma display panel ~~in which using~~ frames, each frame being divided into a plurality of subfields, an initialization period included in each sub-field is divided into a set-up interval and a set-down interval ~~for its driving~~, comprising the steps of:

displaying a picture on the panel;

sensing a driving temperature of the panel; and

setting a driving waveform to be applied in the set-up interval in correspondence with said driving temperature of the panel,

wherein a first driving waveform supplied when said driving temperature of the panel is a first prescribed temperature is different from a second driving waveform supplied

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when said driving temperature of the panel is a second prescribed temperature, which is different from the first prescribed temperature, and

wherein each of said sub-fields includes a plurality of periods, one of the periods being the initialization period, and

wherein waveforms applied in the set-up interval of the first and second driving waveforms are different from each other while waveforms applied in the other periods are substantially identical to each other.

8. (Canceled)

9. (Currently Amended) The method as claimed in claim 87, ~~further comprising the steps of~~ wherein the step of applying the second waveform comprises:

applying a rising ramp waveform to a scan electrode provided at each discharge cell during the set-up interval ~~when said driving temperature of the panel is said low temperature; and~~

applying a ground voltage to a common sustain electrode provided, in parallel with the scan electrode, at each discharge cell during the set-up period.

10. (Currently Amended) The method as claimed in claim 87, ~~further comprising the steps of~~ wherein the step of applying the first waveform comprises:

applying a rising ramp waveform to a scan electrode provided at each discharge cell during the set-up interval ~~when said driving temperature of the panel is a temperature more than said low temperature;~~

applying a ground voltage to a common sustain electrode provided, in parallel with the scan electrode, at each discharge cell in ~~the~~ a first half of the set-up interval; and

floating the sustain electrode in ~~the~~ a second half of the set-up interval.

11. (Currently Amended) A driving apparatus for a plasma display panel ~~in which an initialization period included in each sub-field is divided into a set-up interval and a set-down interval for its driving,~~ comprising:

a temperature sensor for sensing a driving temperature of the panel;

a switching device provided between a plurality of common sustain electrodes provided at the panel and a ground voltage source; and

a ~~timing~~ controller for controlling a turning-on and a turning-off of the switching device during an initialization period of each sub-field of a frame, which includes a set-up interval and a set-down interval, in correspondence with a temperature inputted from the temperature sensor,

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wherein said controller differently controls said turning-on and said turning-off of the switching device when a driving temperature inputted from the temperature sensor is a first prescribed temperature and when a driving temperature inputted from the temperature sensor is a second prescribed temperature, the first and second temperatures being different, and

wherein waveforms applied in the set-up interval of the first and second driving waveforms are different from each other while waveforms applied in the other periods of the sub-field are substantially identical to each other.

12. (Canceled)

13. (Currently Amended) The driving apparatus as claimed in claim 1211, wherein said ~~timing~~ controller turns on the switching device in ~~the~~ a first half of the set-up interval while turning off the switching device in ~~the~~ a second half of the set-up interval to float the common sustain electrode when a driving temperature inputted from the temperature sensor is ~~more than~~ said ~~low~~ first prescribed temperature.

14. (Currently Amended) The driving apparatus as claimed in claim 1211, wherein said ~~timing~~ controller turns on the switching device during the set-up interval when a driving temperature inputted from the temperature sensor is said ~~low~~ second prescribed temperature.

15. (Original) The driving apparatus as claimed in claim 11, further comprising:
a sustain driver for driving the common sustain electrode;
a scan driver for driving a plurality of scan electrodes provided in parallel with the common sustain electrode; and
a data driver for driving a plurality of address electrode provided in a direction crossing the common sustain electrode,
wherein said timing controller controls the sustain driver, and the scan driver and the data driver.

16. – 19. (Canceled)

20. (New) The method of claim 1, wherein the first prescribed temperature is within a first prescribed temperature range, and the second prescribed temperature is within a second prescribed temperature range, wherein the first prescribed temperature range includes temperatures, which are higher than temperatures within the second prescribed temperature range.

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21. (New) The method of claim 7, wherein the first prescribed temperature is within a first prescribed temperature range, and the second prescribed temperature is within a second prescribed temperature range, wherein the first prescribed temperature range includes temperatures, which are higher than temperatures within the second prescribed temperature range.

22. (New) The method of claim 11, wherein the first prescribed temperature is within a first prescribed temperature range, and the second prescribed temperature is within a second prescribed temperature range, wherein the first prescribed temperature range includes temperatures, which are higher than temperatures within the second prescribed temperature range.